

WORKSTATION STRATEGIES

1988 AND BEYOND

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NOTES:

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Focus

- Business Systems
- White Collar Users
- Office Workstations

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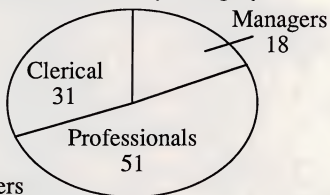
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User Demographics

Percent of Users by Category



460,000 Users
280,000 Workstations

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Objectives

- Status of the Standard Terminal
- Impact of the PC Population
- Need to Plan Workstation Direction
- Impact of a Computer as a Workstation
- Plans of Workstation Vendors

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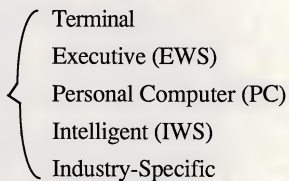
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Terminology

Workstation=
(WS)



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Summary of Findings

- More PCs than Terminals
- 22% of PCs Used by Management
- 62% of PCs Connected to the Network
- Engineering Ws entering business systems
- Vendors Exploding WS Capabilities

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Standard Workstation

Yesterday

Single
Function
Terminal

Tomorrow

Multi-
Function
Computer

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Major Issues

- The Workstation as a Peer—
a Computer
- Data Management in a Distributed
Environment

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Major Issues

- Multiplatform Integrated Applications
- User-Developed Production Applications

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Topics

- Driving Forces
- Current Workstation Environments
- Plans and Application Impacts
- Vendor Directions

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Driving Forces

- User Interface to Computing
- Access to Data
- Managing Dispersed Data
- Workstation Technology

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User Interface to Computing

- Personal Computer Based
- Using Spreadsheet/Word Processing Approach
- Becoming ICON Oriented
- Graphics Desired

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Access to Data

Workstation = Window into the
Information Network



Information Services
and Sources

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Managing Dispersed Data

Three Tiers of Computing

<u>Tier</u>	<u>Yesterday</u>	<u>Tomorrow</u>
1.	Mainframe	Mainframe
2.	Mini	Mini
3.	Terminal	Computer

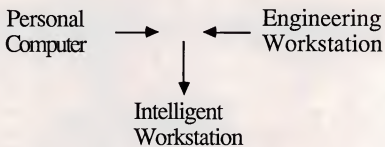
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Workstation Technology



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Converging WS Technology

Factor	PC	Engr WS
Price/Power	Rising	Declining
Communications	Expanding	Established
Graphics	Improving	Established

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Converging WS Technology

Factor	PC	Engr WS
Windowing	Emerging	Available
Connectivity	DOS based	Unix & DOS
Acceptance	Established	Emerging

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CURRENT WORKSTATION ENVIRONMENT

Office Workstations

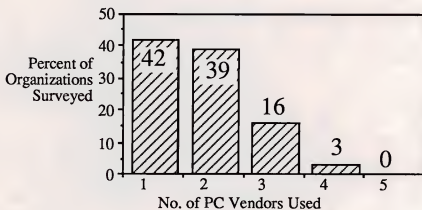
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Hardware Environment PC Vendors



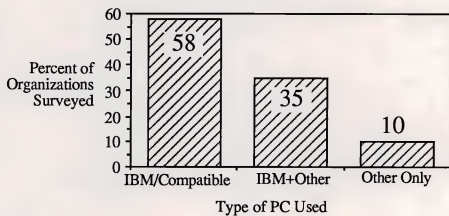
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Level of IBM-Based PC Standardization



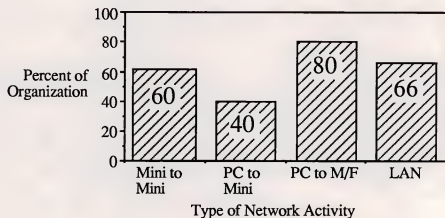
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Networking Environment Networking Activity



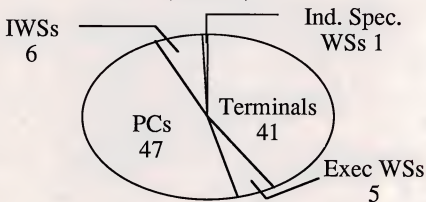
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Workstation Population by Type (Percent)



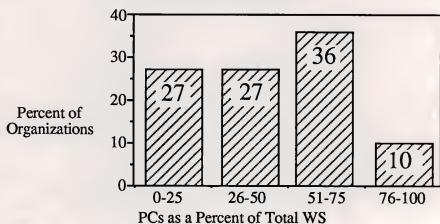
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PCs as a Percent of Workstations



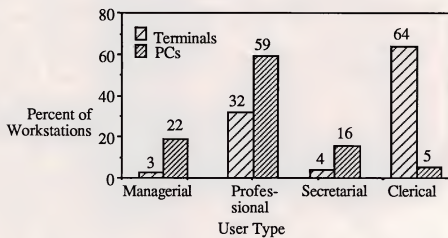
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Distribution of Workstations



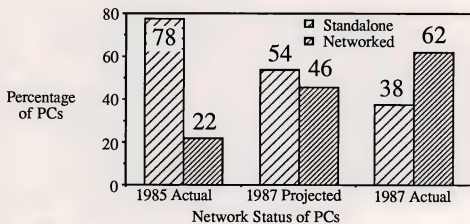
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PC Connectivity by Percent of PCs 1985 & 1987



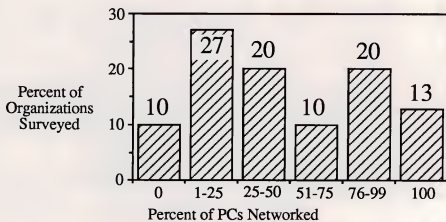
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PC Connectivity by Percent of Organizations Interviewed



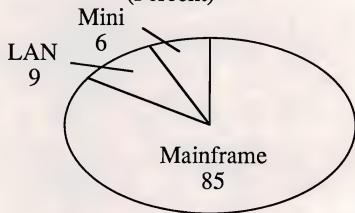
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Networked PCs by Type of Connectivity (Percent)



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Workstation Support Issues

- Modest Problem—22%
- Key Problems
 1. User Support
 2. Training
 3. Cost of Support
- Responsibility—End-User Computing

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Plans and Application Impacts

- Workstation Decisions
- Workstation Plans
- Workstation Based Applications

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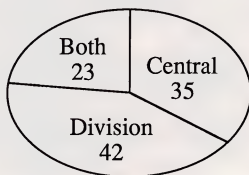
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Hardware Decisions

Where Are Recommendations Made
(Percent)



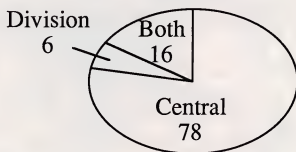
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Hardware Decisions Where Are Decisions Made (Percent)



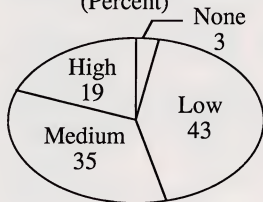
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Hardware Selection Level Of User Involvement (Percent)



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Workstation Plans

- 56% Have WS Plans while 95% Have Technology Plans
- 45% Developed in Previous 18 Months
- 88% Have WS Selection Standards
- 76% Require Financial Justification

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Workstation Plan Objectives

1. Connectivity
2. Cost
3. Improved Support
4. Application-Based Selection
5. Standardization
6. One WS per Desk

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Workstations Replacing Terminals

Question: Is the replacement of
terminals being planned?

Answer: Yes—40% No—60%
But most said it was happening
—one WS per Desk

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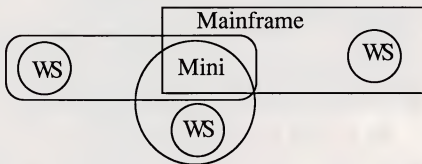
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Integrated Workstation Applications

Three Tier Computing



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True Three Tier Computing

- Computers at All Tiers
- Processing at All Tiers
- Data Storage at All Tiers

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Integrated Workstation Applications—Characteristics

- Graphic Interfaces
- Remote Data Entry/Collection
- Data Analysis with Data Entry
- High Processing Loads

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Integrated Workstation Applications—Candidates

- Executive Support Systems
- Electronic Mail
- Operational Reporting
- Software Development
- Imaging

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Vendor Directions Workstation Market

- New Opportunity
- Room for New Approaches
- Closer Tie to the End User
- Expand the Alternatives
- Expand the Software Market

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Vendor Orientation

Vendor	Orientation
Apple	User Interface
DEC	Opportunistic
IBM	PC Integration
Sun/Apollo	Power/Communications
Wang	Office Technology

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Vendor Product Directions

Vendor	Products
Apple	Macworkstation
DEC	Apple & Microvax
IBM	PS/2 + OS/2
Sun/Apollo	Low End Color IWS
Wang	Text Oriented IWS

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Conclusions

- PC Is Becoming a Standard Workstation
- PC Has placed the WS on the Managers Desktop
- Alternatives to the PC Are Available
- EWS and Word Processor Are Dead

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Workstation Technology Provides

- The End User with Ease of Use
& PC Like Interface
- The Vendor with New Market for
Power & Software

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Workstation Technology Provides

- Information Systems with New Alternatives and an Increased Integration Challenge

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Workstation Strategies

Tomorrow's Workstation Will
Be a Computer

Plan for It Now

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